

# EUROPEAN PATENT OFFICE

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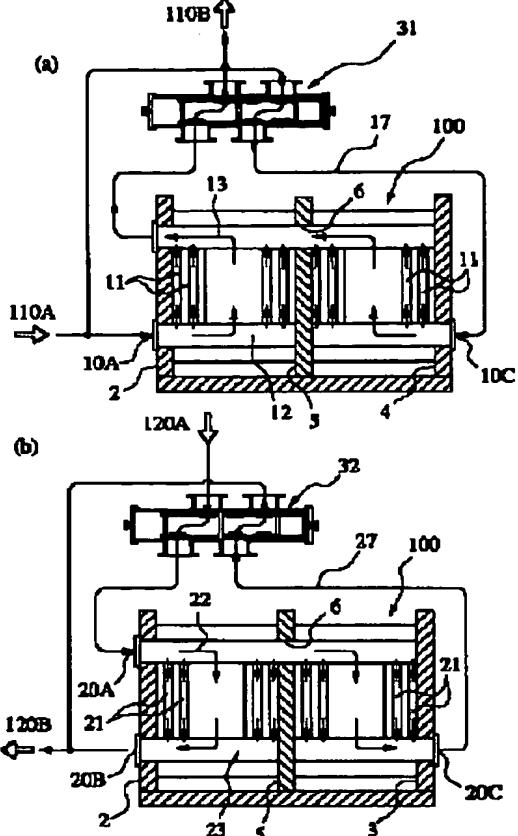
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TITLE : PLATE TYPE HEAT-EXCHANGER,  
 HEAT-EXCHANGE EQUIPMENT, AND  
 OPERATION THEREOF



**ABSTRACT :** PROBLEM TO BE SOLVED: To cope with the change of a flow rate of a heating medium by a single plate-type heat-exchanger.

**SOLUTION:** A plate type heat-exchanger is constituted such that heat-exchange flow passages 11 on the primary side and heat-exchange passages 21 on the secondary side are alternately formed between heat-exchange plates in a way that a number of heat-exchange plates 4 are laminated and fastened together between a front plate 2 and a back plate 3 and four through-passages 12, 13, 22, and 23 of a first through- passage on the primary side extending through a heat-exchange plate, a first through- passage on the primary side, a first through-passage on the secondary side, and a second through-passage on the secondary side are formed. An intermediate partition plate 5 to partition the intermediate parts in the direction of the length of the first through-passage 12 on the primary side and the second through-part 13 on the primary side is nipped between the heat-exchange plates 4. A third connection port 10C on the primary side and a third connection port 20C on the secondary side are formed in the back plate 3 and by switching the direction of a flow of the heating medium according to a flow rate, a velocity of flow is maintained in a given range.

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